



2015 BLOOMINGTON RAINWATER GARDEN PROGRAM

City of Bloomington

2015 Pavement Management Project Informational Meeting, Public Works Training Room

January 12, 2015

What is a rainwater garden?

A rainwater garden is simply a shallow depression dug into the ground designed to capture rainwater and snowmelt runoff, and infiltrate the water within 24-48 hours.



Thomas Ave. S., Bloomington, MN (2010)

Why build a rainwater garden?

- Enhance water quality of receiving waters
- Reduce runoff volume and intensity
- Promote groundwater recharge
- Provide wildlife habitat
- Attractive landscaping feature



Bloomington, MN (stormwater bypassing full garden)

Effects of urbanization on stormwater runoff:

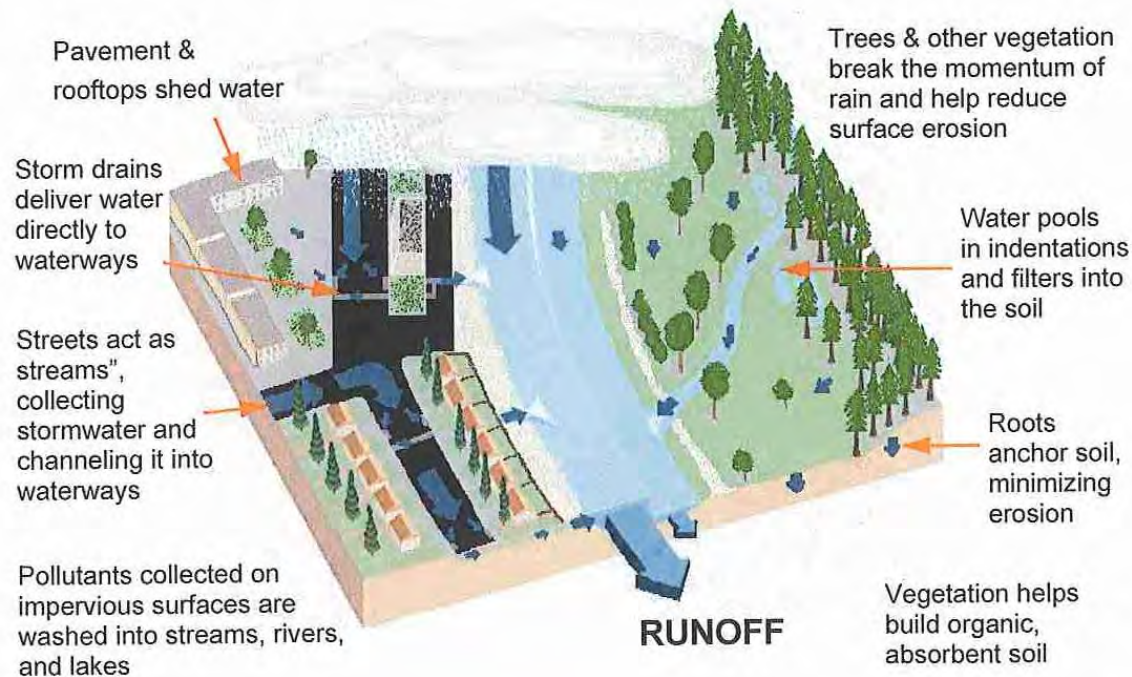
MORE WATER FASTER

DEVELOPED LANDS

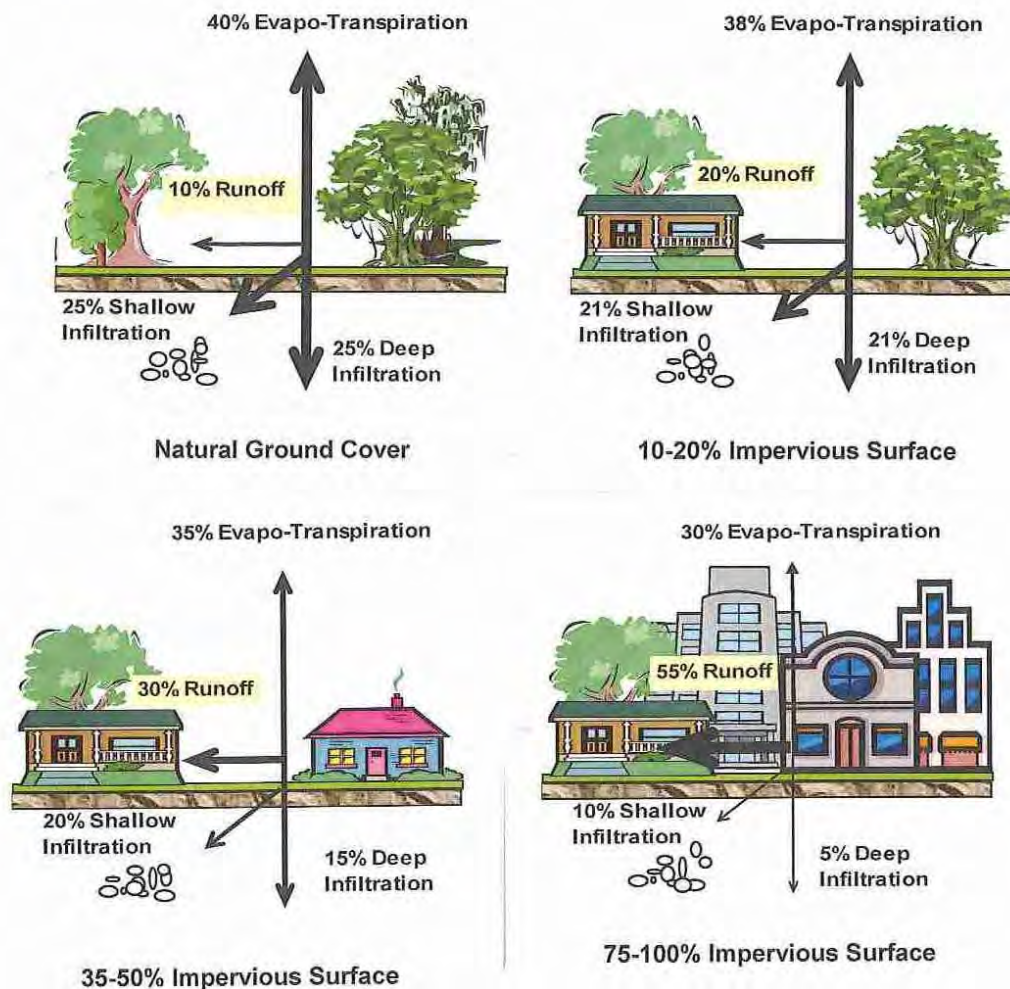
Rain pours more quickly off of city and suburban landscapes, which have high levels of impervious cover

NATURAL LANDS

Trees, brush, and soil help soak up rain and slow runoff in undeveloped landscapes



Effects of urbanization on stormwater runoff:



Effects of urbanization on stormwater runoff:

- Increased runoff from impervious coverage from Roads, Parking Lots, Driveways, Sidewalks and Buildings and Compacted soils
- Storm sewers designed to remove runoff efficiently from the landscape – flood protection
- Peak flows into streams and receiving waters
- Increased erosion
- High nutrient levels in runoff
- Increased temperature of runoff affects downstream waterbodies

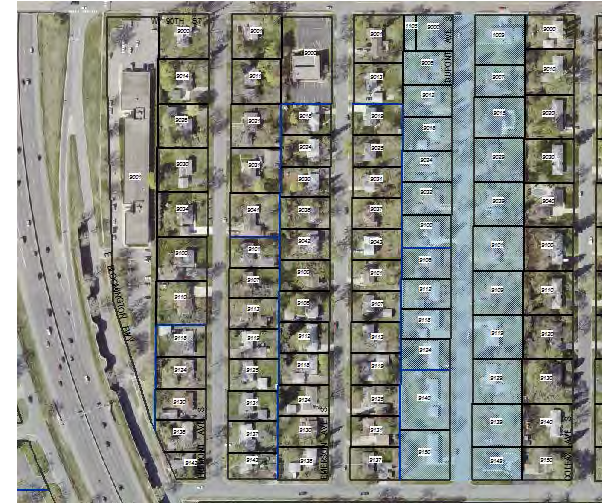
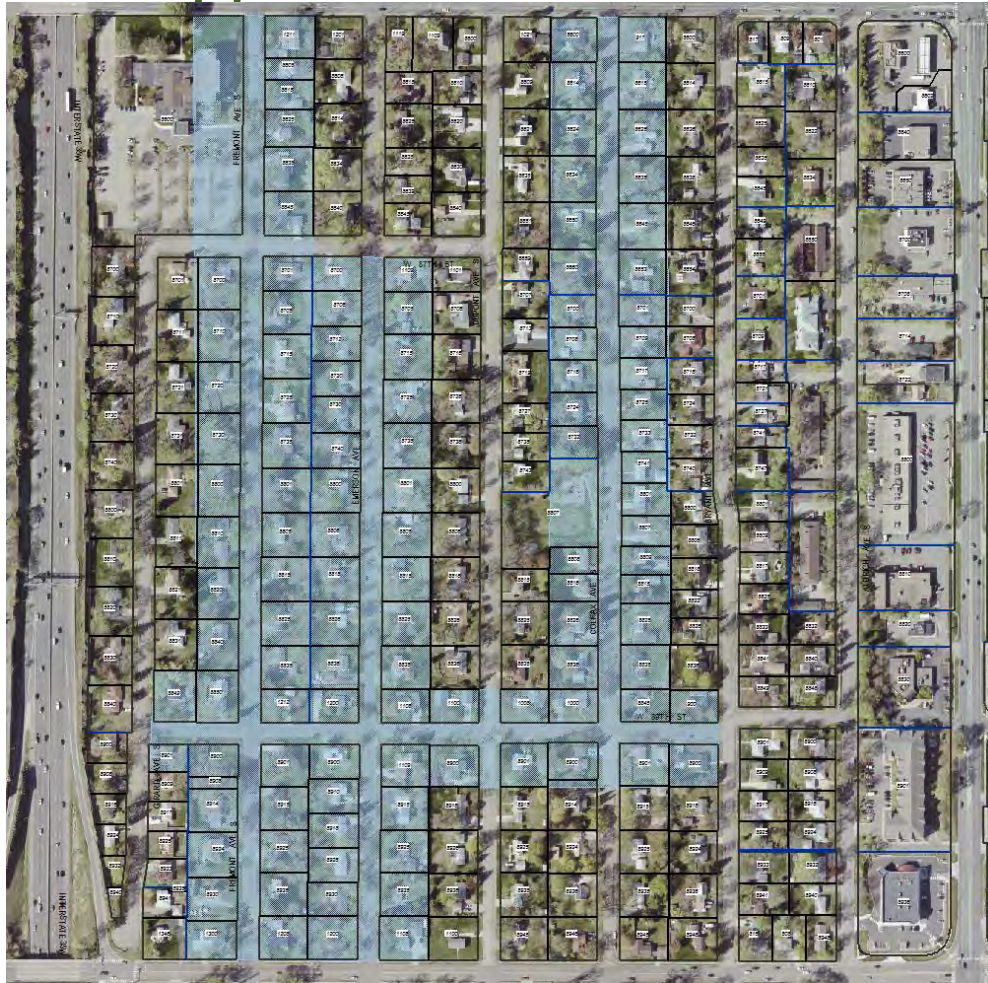
Locating rainwater gardens?

- Gentle sloping yard
- Good infiltrating soils - sandy
- No conflicts with underground utilities
- Rainwater runoff source (drainage area)
- Enthusiastic volunteers (your participation is required)



2010 & 2013 Bloomington, MN

2015 Rainwater Garden Program Neighborhood



Dupont Ave. S.
(90th to 92nd)

Fremont Ave. (86th to 90th), Emerson Ave. (87th to 90th),
Colfax Ave. (86th to 89th) and 89th St. (Girard to Bryant)

What makes up a rainwater garden?

- Rainwater runoff source – curb inlet/sediment basin
- Depressional storage area –12” below gutter line of curb, sized to capture 1” of runoff, 200-300 square feet, gently sloping yard
- Planting soil mixture – clean compost and sand mix
- Plants (native and hearty)
 - Deep rooted grasses, switchgrass, feather grass
 - Wildflowers, blackeyed susan, cone flowers
 - Shrubs, winterberry, red-twigg dogwood
- Landscape edging to ease mowing, prevent weed intrusion

Rainwater garden maintenance (Resident Responsibilities):

- Pledge to maintain, minimum of ten years
- Weeding: weekly to monthly during initial establishment; monthly to annually as the garden matures.
- Divide plants as they grow, 4-5 years
- Cut back dead plant material every spring, plants are good habitat for winter over birds
- Replenish wood mulch as it decomposes, yearly.
- Water during establishment period, if experiencing severe drought conditions
- Remove accumulated sediment, City will clean sediment trap structures

Rainwater garden maintenance (Resident Responsibilities):



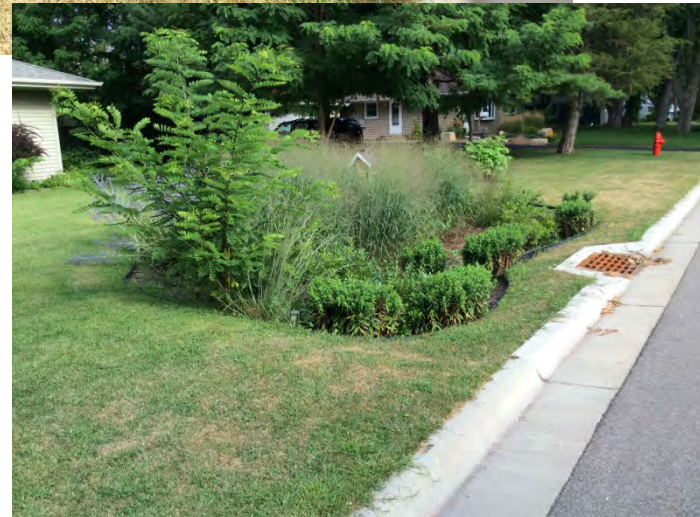
Planting the raingarden:
Typically in the fall, allows you
to get to know your garden,
and is a fun gathering for
friends, relatives and neighbors



Rainwater garden maintenance (Resident Responsibilities):



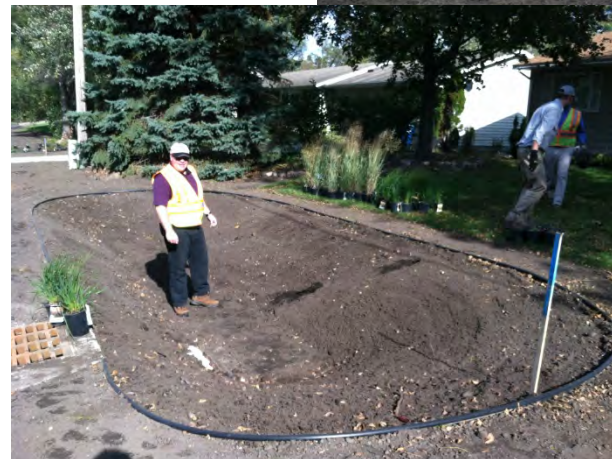
- Weeding
- Clean out trash, leaves, etc
- Water during dry periods
- Plant maintenance
- Replenish Mulch



Rainwater garden maintenance (City Responsibilities):



City staff will be available for on-site meetings, communicate designs, oversee construction, pre-planting layout and follow-up monitoring



Rainwater garden maintenance (City Responsibilities):



City Maintenance Crews
demonstrating Vactor Truck cleaning
sediment trap structure

Rainwater garden maintenance (City Responsibilities):



City Maintenance Crews vac-out muck, debris and clean sediment structure, typically follows street sweeping schedule

Recent Projects:



2009, Thomas Avenue from W. 106th Street to W. 108th Street, six rainwater gardens.

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2009, Thomas Avenue from W. 106th Street to W. 108th Street, six rainwater gardens, picture 2014 (5 years)

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Recent Projects:



2010, Bloomington, Thomas, Upton, Vincent and Washburn Avenues, north of W. Old Shakopee Rd., twenty two rainwater gardens.

Recent Projects:



2010, Bloomington, Thomas, Upton, Vincent and Washburn Avenues, north of W. Old Shakopee Rd., twenty two rainwater gardens, picture 2014 (4 years)

Recent Projects:



2011, W.91st, 92nd & 93rd St & Queen Ave. S., and
W. 83rd St. & Garfield and Harriet Ave. S., eight
rainwater gardens

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2011, W.91st, 92nd & 93rd St & Queen Ave. S., and
W. 83rd St. & Garfield and Harriet Ave. S., eight
rainwater gardens, picture 2014 (3 years)

Recent Projects:



2012, W. 103rd & Chowen, American Blvd. W., one residential and three commercial gardens. June 12, 2013, stormwater runoff filled the new garden!

Recent Projects:



2012, Walser Toyota, American Blvd. – Raingarden designed to filter runoff, reduce street flooding and provide native landscaping, picture 2014 (2 Years)

Recent Projects:



2013, Russell and Sheridan Ave. S., ten residential rainwater gardens

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2014, Baillif, Beard, Chowen, Drew, Ewing and Upton, thirteen residential rainwater gardens

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Recent Projects:



10263 Pleasant Ave.



10340 Clinton Ave.

Green Streets for Blue Waters, Metro Blooms and CWLA Grant Project, Lower Minnesota River WD.

18 Raingardens and vegetated bioswale in the neighborhood southeast of 102nd & Lyndale

What other Cities are building rainwater gardens as part of street construction projects?

- Maplewood, starting in 1997
- Burnsville, 2003
- Eagan
- Plymouth
- St. Paul
- Others?

Rainwater Garden Education and Resources:

- City of Bloomington Website, search “rain gardens” or “rainwater gardens” for past projects, Briefing articles, etc.
- Blue Thumb Guide to Raingardens, available at bookstores, libraries, internet, ~\$17
- Nine Mile Creek Watershed District website under “Resources”, also source for cost share grant funds
- Metro Blooms Co-Sponsored Raingarden workshop:
 - Date: February 14, 2015, 8:30AM to noon
 - Place: Oak Grove Presbyterian Church, 2200 W. Old Shakopee Rd, Bloomington, MN 55431

Rainwater Garden Education and Resources:

Metro Blooms Co-Sponsored Raingarden workshop:

Date: February 14, 2015, 8:30AM to noon

Location: Oak Grove Presbyterian Church, 2200 WOSR

Whether you are an experienced gardener or have never tried gardening before, this Metro Blooms eco-friendly workshop will help you learn how to:

- o Keep our water clean with native plants, raingardens, and shoreline plantings
- o Create pollinator habitat by using beautiful native plants in your landscape
- o Redirect your downspouts and install a rain barrel
- o Design your landscape with one-on-one assistance from landscape designers and Hennepin County Master Gardeners
- o Adopt healthy yard care practices to improve our land and water habitat

Visit metroblooms.org or call 651-699-2426 Cost: \$15

Contact: Barbara Speltz , barb@metroblooms.org

612-801-9321, @MetroBlooms

FAQs:

Q: Will my rainwater garden become a mosquito breeding ground?

A: No, mosquitoes require 3 to 7 days to transition from the larva to flying insect stages and rainwater gardens should infiltrate in 24-48 hours.

Q: Will my rainwater garden plug up over time?

A: No, infiltration performance should increase as plant roots open up pores in the soil. Sediment should get caught in sediment trap, but remove any that may get by.

FAQs:

Q: How much will this cost? Am I going to be assessed?

A: The Rainwater Garden Program is being funded by the Bloomington Stormwater Utility Fund. Individual garden costs are estimated at \$3000-\$5000 depending on size and site limitations. No individual assessments for the rainwater garden costs. Bloomington Engineering anticipates up to \$25K from the Nine Mile Creek Watershed District in matching funds.

Q: What is required of me?

A: Labor and commitment, planting, weeding, watering and long-term garden care.

FAQs:

Q: Will the pollutants in the stormwater contaminate my plants and ground?

A: No, research is on-going, but the general consensus is that the typical fertilizers, oils, metals and other crud found in residential areas will be filtered out in the mulch, compost and other organic matter, and ultimately will be biodegraded by microorganisms in the soil, especially near the root-zones of the plants.

FAQs:

Q: What if I decide I don't want the rain garden any more? Can I fill the depression and resod?

A: You are under no permanent obligation to keep the rainwater garden. This is a completely voluntary program. We anticipate most residents will enjoy it and see it as an amenity. If a resident chooses to remove the rainwater garden, that will be the sole responsibility of the homeowner.

If you like gardening, this may be fun; if not, please consider that this may not be the program for you.

Questions?

Thanks for your time.

Website: <http://www.BloomingtonMN.gov/>

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